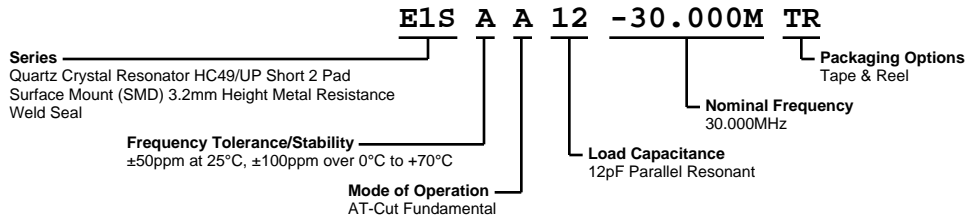


E1SAA12-30.000M TR



ELECTRICAL SPECIFICATIONS

| | |
|---|--|
| Nominal Frequency | 30.000MHz |
| Frequency Tolerance/Stability | $\pm 50\text{ppm}$ at 25°C , $\pm 100\text{ppm}$ over 0°C to $+70^\circ\text{C}$ |
| Aging at 25°C | $\pm 5\text{ppm}/\text{year}$ Maximum |
| Load Capacitance | 12pF Parallel Resonant |
| Shunt Capacitance | 7pF Maximum |
| Equivalent Series Resistance | 40 Ohms Maximum |
| Mode of Operation | AT-Cut Fundamental |
| Drive Level | 1mWatt Maximum |
| Storage Temperature Range | -40°C to $+125^\circ\text{C}$ |
| Insulation Resistance | 500 Megaohms Minimum (Measured at 100Vdc) |

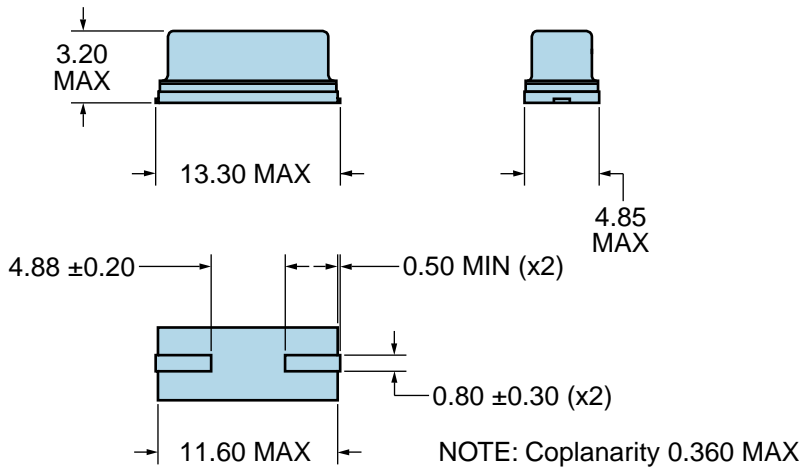
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

| | |
|-------------------------------------|---|
| ESD Susceptibility | MIL-STD-883, Method 3015, Class 1, HBM: 1500V |
| Fine Leak Test | MIL-STD-883, Method 1014, Condition A |
| Flammability | UL94-V0 |
| Gross Leak Test | MIL-STD-883, Method 1014, Condition C |
| Mechanical Shock | MIL-STD-202, Method 213, Condition C |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Moisture Sensitivity | J-STD-020, MSL1 |
| Resistance to Soldering Heat | MIL-STD-202, Method 210, Condition K |
| Resistance to Solvents | MIL-STD-202, Method 215 |
| Solderability | MIL-STD-883, Method 2003 |
| Temperature Cycling | MIL-STD-883, Method 1010, Condition B |
| Vibration | MIL-STD-883, Method 2007, Condition A |

E1SAA12-30.000M TR

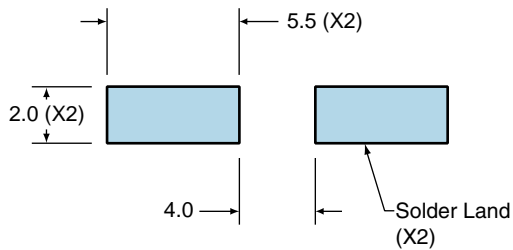
MECHANICAL DIMENSIONS (all dimensions in millimeters)

| LINE | MARKING |
|------|---|
| 1 | E30.000M <i>E=Ecliptek Designator</i> |



Suggested Solder Pad Layout

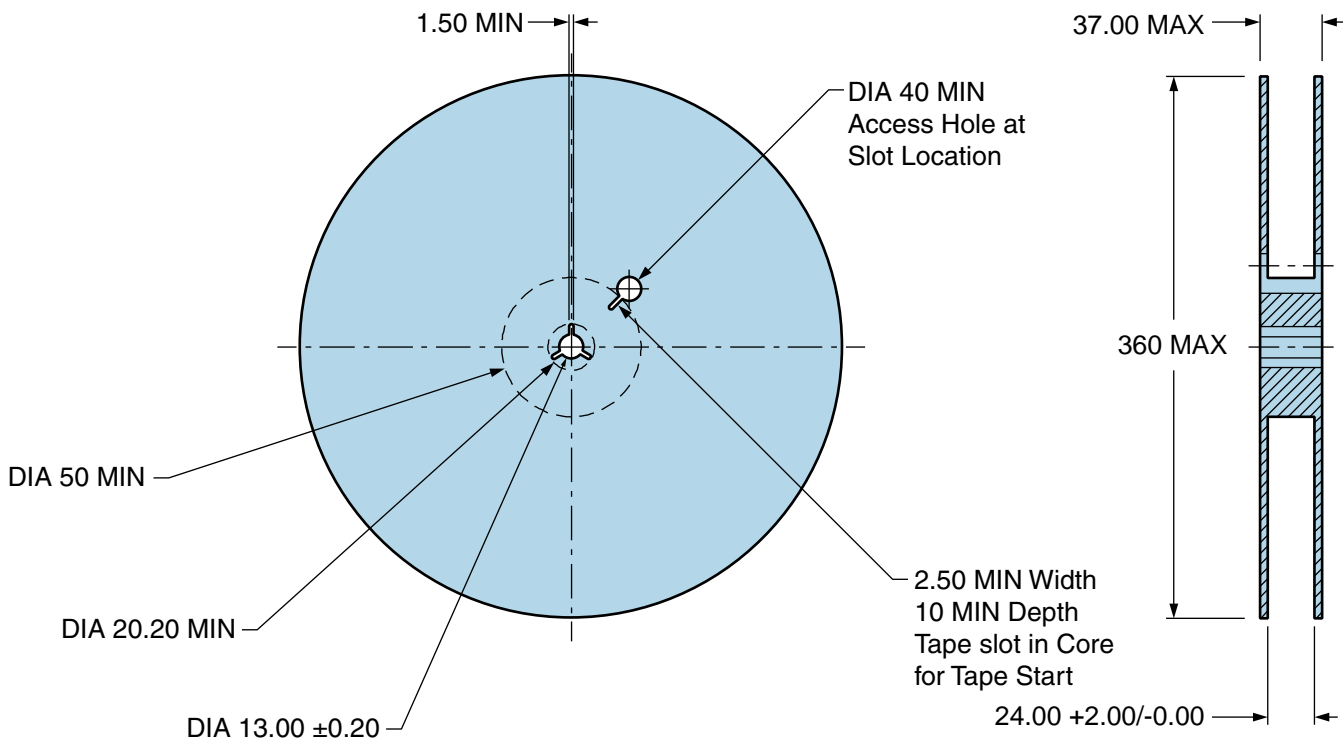
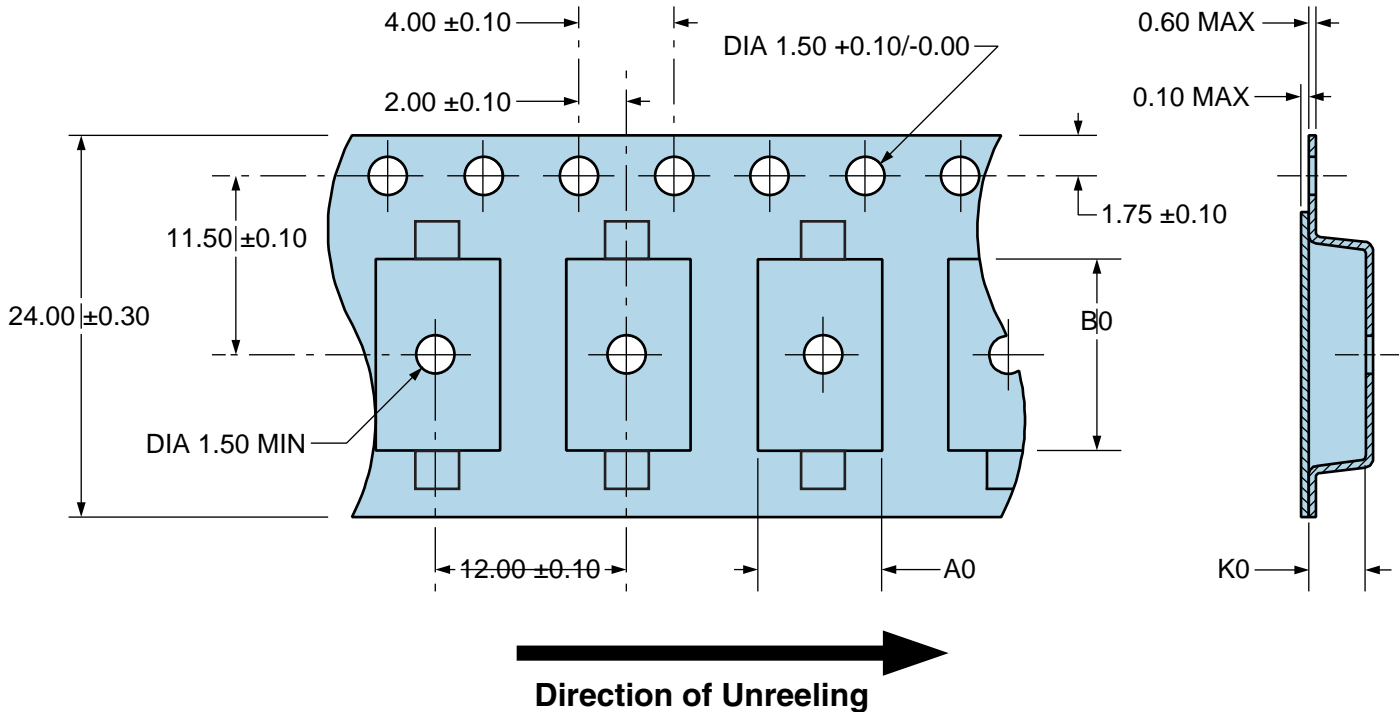
All Dimensions in Millimeters



All Tolerances are ±0.1

E1SAA12-30.000M TR Tape & Reel Dimensions

All Dimensions in Millimeters
Compliant to EIA-481
Quantity Per Reel: 1,000 units



Recommended Solder Reflow Methods



High Temperature Infrared/Convection

| | |
|--|--------------------------------------|
| T_s MAX to T_L (Ramp-up Rate) | 3°C/second Maximum |
| Preheat | |
| - Temperature Minimum (T_s MIN) | 150°C |
| - Temperature Typical (T_s TYP) | 175°C |
| - Temperature Maximum (T_s MAX) | 200°C |
| - Time (t_s MIN) | 60 - 180 Seconds |
| Ramp-up Rate (T_L to T_P) | 3°C/second Maximum |
| Time Maintained Above: | |
| - Temperature (T_L) | 217°C |
| - Time (t_L) | 60 - 150 Seconds |
| Peak Temperature (T_P) | 260°C Maximum for 10 Seconds Maximum |
| Target Peak Temperature (T_P Target) | 250°C +0/-5°C |
| Time within 5°C of actual peak (t_p) | 20 - 40 seconds |
| Ramp-down Rate | 6°C/second Maximum |
| Time 25°C to Peak Temperature (t) | 8 minutes Maximum |
| Moisture Sensitivity Level | Level 1 |

Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 245°C

| | |
|--|--|
| $T_s \text{ MAX}$ to T_L (Ramp-up Rate) | 5°C/second Maximum |
| Preheat | |
| - Temperature Minimum ($T_s \text{ MIN}$) | N/A |
| - Temperature Typical ($T_s \text{ TYP}$) | 150°C |
| - Temperature Maximum ($T_s \text{ MAX}$) | N/A |
| - Time ($t_s \text{ MIN}$) | 30 - 60 Seconds |
| Ramp-up Rate (T_L to T_P) | 5°C/second Maximum |
| Time Maintained Above: | |
| - Temperature (T_L) | 150°C |
| - Time (t_L) | 200 Seconds Maximum |
| Peak Temperature (T_P) | 245°C Maximum |
| Target Peak Temperature ($T_P \text{ Target}$) | 245°C Maximum 2 Times / 230°C Maximum 1 Time |
| Time within 5°C of actual peak (t_p) | 10 seconds Maximum 2 Times / 80 seconds Maximum 1 Time |
| Ramp-down Rate | 5°C/second Maximum |
| Time 25°C to Peak Temperature (t) | N/A |
| Moisture Sensitivity Level | Level 1 |

Low Temperature Manual Soldering

185°C Maximum for 10 seconds Maximum, 2 times Maximum.

High Temperature Manual Soldering

260°C Maximum for 5 seconds Maximum, 2 times Maximum.